

Analysis

Turning to claim 1, a multiple twisted conductor is provided. The multiple twisted conductor includes:

- *At least two individual twisted conductors (1,2) each of which comprises two stacks of an uneven number of individual enamel insulated partial conductors (3)*

Figure 2c of the pending application illustrates the two “individual twisted conductors” 1, 2. As clearly illustrated, “individual twisted conductor” 1 includes two stacks of conductors 3. Likewise, “individual twisted conductor” 2 includes two stacks of conductors 3. This particular structure is discussed in the background portion of the application¹ and illustrated in prior art Figures 1a and 1b. This particular structural arrangement is useful in high current power transformers. Conventionally, each twisted conductor structure is wrapped with paper tape insulation and wound onto a storage drum. To provide the “multiple twisted conductor”, each “individual twisted conductor” structure (1, 2) is guided in parallel through a wrapping unit so that they are insulated together by a common outer sheath (5).

While the admitted prior art discloses a multiple twisted conductor, it is important to note that Jagersberger does not disclose a **multiple** twisted conductor structure (i.e., the combination of more than one individual twisted conductor). Jagersberger is only directed to the structure of the **individual** twisted conductor. In other words, the present invention and the admitted prior art provide multiple twisted conductors that use at least two individual twisted conductors, such as the ones of Jagersberger.

¹ See specification at page 1.

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Claim 1 further recites:

- *A joint sheath (5) surrounding both of said at least two individual twisted conductors (1, 2)*

As noted above, such a joint sheath is disclosed in the admitted prior art of Figures 1a and 1b and discussed in the background portion of the application. This joint or common sheath is the outer sheath that surrounds both twisted conductor structures together.²

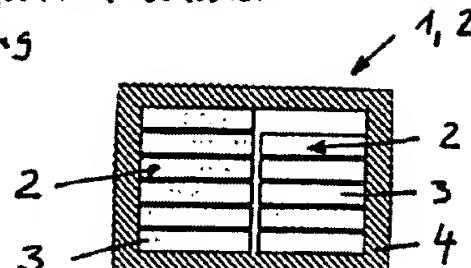
Of course, Jagersberger is not concerned with such a joint sheath since it is only directed to a single individual twisted conductor, i.e., the individual twisted conductor described above which is wound around a storage drum.³

² The joint sheath is illustrated in the drawing sketch below at Fig. B and C, denoted by number “5”.

³ As illustrated in the drawing sketch at Fig. A, Jagersberger does not illustrate a joint or common sheath since only one individual twisted conductor is provided. The layer 4 is the insulating layer of the individual twisted conductor only.

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1,2 = twisted conductor
 2 = stacks
 3 = fast partial conductors
 4 = casing



Prior art 145 5477007

Fig. A

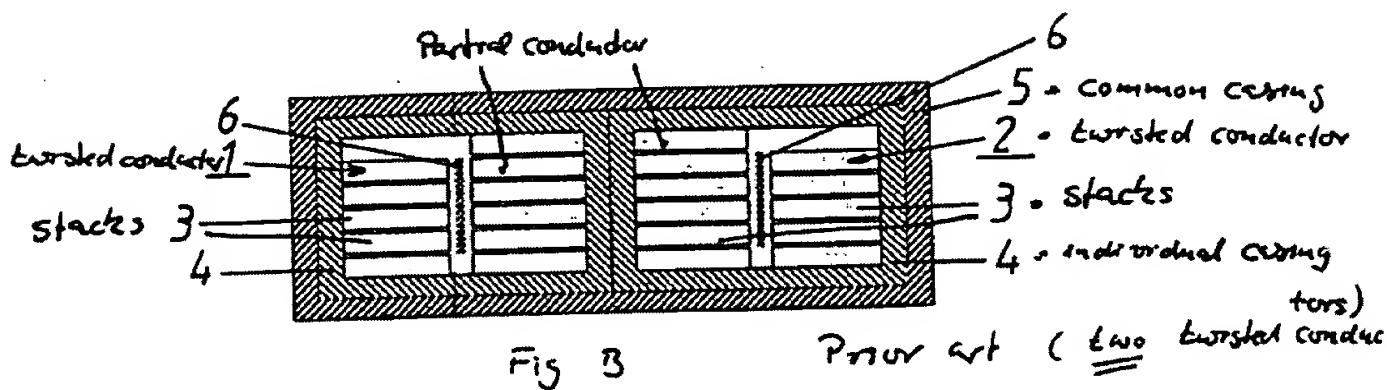


Fig. B

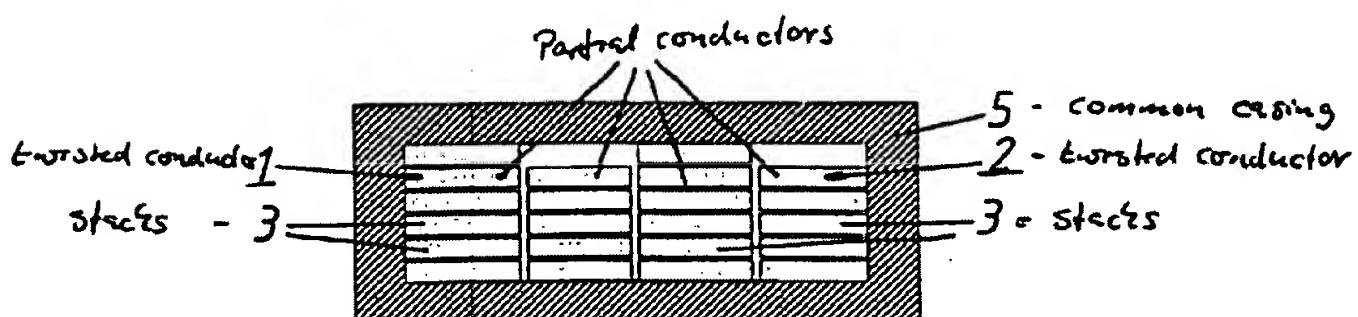


Fig. C

Claim 1 continues with:

- *Wherein said at least two individual twisted conductors (1, 2) are arranged inside the joint sheath (5) without any insulating layer of their own,*

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As noted in the background portion of the application⁴ each individual twisted conductor conventionally has its own insulating layer.⁵ This insulating layer 4 may be the paper wrapping provided around the individual twisted conductor structure before it is wound onto its own drum for storage.

Jagersberger discloses that the twisted conductor structure has this insulating layer.⁶ The casing 6 at least partially covers, or completely covers, the twisted conductor structure.⁷ Since Jagersberger is not concerned with combining the individual twisted conductor structures into multiple twisted conductor structures, this reference is silent with respect to a joint sheath and instead, utilizes the insulating layer for each individual twisted conductor structure.⁸

Finally, claim 1 concludes:

- *Wherein said at least two individual twisted conductors (1, 2) are spaced apart from one another by spacers (6) made of an insulating material.*

As illustrated in Figure 2c of the pending application, spacers 6 may be provided between the individual twisted conductors. The admitted prior art does not teach or suggest this structure; rather, the spacers are only provided **within** the individual twisted conductor (i.e., between the

⁴ See specification at page 2 and Figs. 1a and 1b.

⁵ See enclosed drawing sketch.

⁶ See col. 1, lines 31-45, particularly lines 38-44, and col. 3, lines 40-45.

⁷ See col. 4, lines 45-53.

⁸ See the enclosed drawing sketch.

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stacks of conductors 3) and not **between** the individual twisted conductors.² In fact, one would not have been motivated to provide spacers between the individual twisted conductors of the admitted prior art since there are already a plurality of insulating layers (one from each individual twisted conductor) between the individual twisted conductors.

Likewise, Jagersberger fails to teach or suggest the provision of spacers between individual twisted conductors. As noted above, Jagersberger only discloses the individual twisted conductor and is not concerned with a structure which involves multiple twisted conductors. Thus, Jagersberger is completely silent with providing spacers between the individual twisted conductors. Therefore, even if one were to combine the references, one would not have been motivated to modify the admitted prior art to utilize spacers between the individual twisted conductors.

In view of the foregoing, Applicants respectfully submit that the rejection of claim 1 should be withdrawn. As noted above, the combination of cited references fails to teach or suggest the claimed invention. The admitted prior art fails to teach or suggest a multiple twisted conductor in which the individual twisted conductors do not have their own insulating layers. Moreover, the admitted prior art fails to teach or suggest that spacers should be provided between the individual twisted conductors. Jagersberger fails to remedy these deficiencies. Jagersberger is merely directed to the individual twisted conductor itself. This reference fails to address the structure of a multiple twisted conductor, and thus, Jagersberger does not provide any

² See Figs. 1a and 1b of the pending application.

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motivation for removing the insulating layer around the individual twisted conductor and providing a spacer between the individual twisted conductors.

Claim 3 is patentable for at least the same reasons as claim 1, by virtue of its dependency therefrom.

Turning to claim 4, this claim is patentable for similar reasons to claim 1. Claim 4 is directed to the process for producing the multiple twisted conductor. According to the claimed process, at least two individual twisted conductors are joined and provided with a common insulating sheath. These at least two individual twisted conductors do not have their own insulating layers, but have a spacer between them.

The combination of the admitted prior art and Jagersberger fails to render claim 4 obvious for similar reasons to those discussed for claim 1. Namely, Jagersberger merely discloses the individual twisted conductor, two of which are used in the multiple twisted conductor of the admitted prior art. One of ordinary skill in the art would not have thought to remove the outer insulating layer of the individual twisted conductor, and provide a spacer between the individual twisted conductors based on these references. Since the admitted prior art and Jagersberger use an insulating layer for each individual twisted conductor, one would not have thought to remove it. Since the admitted prior art only uses a spacer within the individual twisted conductor, as does Jagersberger, one would not have known to provide a spacer outside of the individual twisted conductor, so as to be between the at least two individual twisted conductors.

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In view of the foregoing, Applicants respectfully request the Examiner to withdraw the rejection of claim 4.

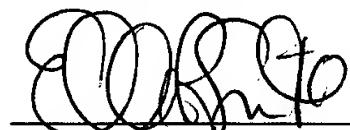
Claims 6 and 7 are patentable for at least the same reasons as claim 4, by virtue of their dependency therefrom.

Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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WASHINGTON OFFICE
23373
CUSTOMER NUMBER

Date: June 23, 2004

Attorney Docket No.: Q64443